

Work Order ID 127418

127418

Page 1

December-17-14 1:23:20 PM

Item ID: D3234-1 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Doubler
 Start Date: 12/17/14 Start Qty: 6.00 ***6*** Cust Item ID:
 Required Date: 12/17/14 Req'd Qty: 6.00 ***6*** Customer:
 Reference:

Approvals: Process Plan: MLJ Date: 14-12-22 Tooling: Date: Run Start ***NR1***
 QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3234	C								
100	FLOW WATER JET	0.00							
100									
Waterjet	Memo	0.00							
FLOW CNC Waterjet	1-Cut as per Dwg								
2024.080	Dwg Rev: <u>C</u>								
	Prog Rev: <u>C</u>								
	2-Deburr if necessary								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
110									
QC	Memo	0.00							
Quality Control									

⑥

DC 15/01/12

⑥

DC 15/01/12

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td style="width: 25%;">Skid-tube ☐</td> <td style="width: 25%;">Crosstube ☐</td> <td style="width: 25%;">Water Jet ☐</td> <td style="width: 25%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Work Order ID 127418

December-17-14 1:23:20 PM

127418

Page 2

Item ID: D3234-1

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Doubler

Stop

NS2

Start Date: 12/17/14 Start Qty: 6.00

6

Cust Item ID:

Required Date: 12/17/14 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

QC8- Inspect parts - second check

0.00

120

QC

Memo

0.00

Quality Control

38
9-89

JAN 13 2015

130

Chemical Conversion Coat per QSI005 4.1

0.00

130

HandFinish

Memo

0.00

Hand Finishing

DAS
23
9-89

15-1-13

140

QC7-Inspect Chemical Conversion Coat

0.00

140

QC

Memo

0.00

Quality Control

DAS
38
9-89

JAN 14 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Work Order ID 127418

December-17-14 1:23:20 PM

127418

Page 3

Item ID: D3234-1

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Doubler

Stop

NS2

Start Date: 12/17/14 Start Qty: 6.00

6

Cust Item ID:

Required Date: 12/17/14 Req'd Qty: 6.00

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Customer:

Reference:

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Tooling: _____

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Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

150

Identify as per dwg & Stock Location: Shop 0.00***150***

Packaging

Memo

0.00

Packaging

4 JAN 14 2015DAS
66
S.S.

160

QC21- Final Inspection - Work Order Release

0.00

160

QC

Memo

0.00

Quality Control

MLJ 15-01-14

CMF

15-1-14

DQA: _____ Date: _____



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Picklist Print

December-17-14 1:23:19 PM

Page 1

Work Order ID: 127418

127418

Parent Item: D3234-1

D3234-1

Parent Item Name: Doubler

Start Date: 12/17/14

Required Date: 12/17/14

Start Qty: 6.00

Required Qty: 6.00

Comments:

IPP Rev:A New Issue 08-08-14 JLM Verified By:EC

IPP Rev:B 08-12-18 as per ECN08-582 DD verified by:EC IPP REV:C

11.11.24 AS PER ECN11-674 DD VERF:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M2024T3S.080		Purchased			No			100	sf	203.5000	0.58	3.663158	

M2024T3S 080

2024-T3 .080 sheet

DC 15/01/12

Location

Loc Qty

Loc Code

MAT021

203.5

M127668

10.5

M129584

25

M129891

168

3.5833

DQA: _____ Date: _____



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FAULT CATEGORY

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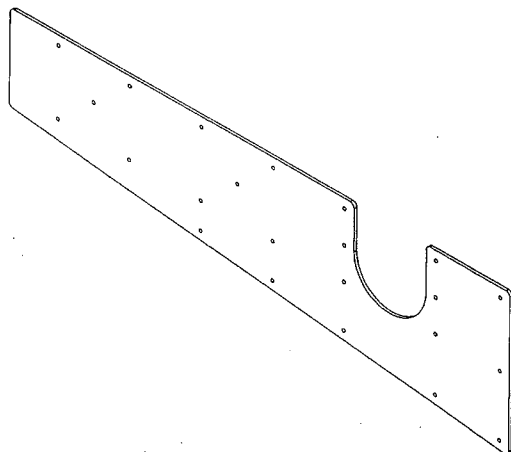
DART AEROSPACE LTD		Work Order: 127418
Description: Doubler		Part Number: D3234-1
Inspection Dwg: D3234	Rev: C	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

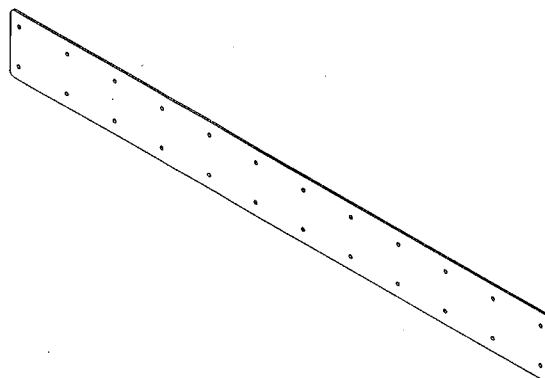
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.098	+0.004/-0.001	Ø .099	✓		V-D-02	
0.285	+/-0.010	.286	✓		Tap	
1.295	+/-0.010	1.295	✓			
2.305	+/-0.010	2.305	✓			
2.700	+/-0.010	2.701	✓			
4.505	+/-0.010	4.506	✓			
1.33	+/-0.030	1.33	✓			
1.523	+/-0.010	1.522	✓			
2.641	+/-0.010	2.641	✓			
3.758	+/-0.010	3.757	✓			
5.993	+/-0.010	5.994	✓			
7.111	+/-0.010	7.110	✓			
8.228	+/-0.010	8.228	✓			
10.463	+/-0.010	10.463	✓			
10.77	+/-0.030	10.77	✓			
2.25	+/-0.030	2.25	✓			
13.333	+/-0.010	13.334	✓			
15.366	+/-0.010	15.366	✓			
15.665	+/-0.010	15.665	✓			
0.080	+/-0.010	.080	✓			

Measured by: m	Audited by: 38 9-89	Preliminary Approval:
Date: 15/01/12	Date: JAN 13 2015	Date:

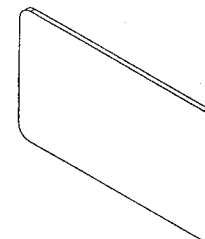
Rev	Date	Change	Revised by	Approved
A	08.09.04	New Issue	KJ/DD	
B	09.05.04	Dimensions update per Rev B	KJ/DD	
C	12.02.01	Dimensions update per Rev C	KJ	



D3234-1 DOUBLER



D3234-3 DOUBLER



D3234-5 SPACER

NOTES:

1) MATERIAL: -1: 2024-T3 ALUMINUM SHEET, 0.080 THICK
PER AMS-QQ-A-250/4 OR AMS 4037
REF DART SPEC M2024T3S.080

-3: 2024-T3 ALUMINUM SHEET, 0.050 THICK
PER AMS-QQ-A-250/4 OR AMS 4037
REF DART SPEC M2024T3S.050

-5: 5052-H32 ALUMINUM SHEET, 0.050 THICK
PER AMS-QQ-A-250/8 OR AMS 4016
REF DART SPEC M5052H32S.050

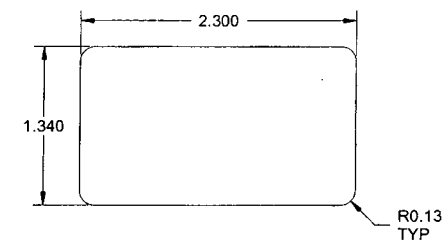
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY PER DART QSI 044 6.1
7) WEIGHT: -1: 0.41 lbs
-3: 0.15 lbs
-5: 0.01 lbs

UNCONTROLLED COPY
SUBJECT TO AMENDMENT
ATTENTION
WORK ORDER
NO. 127418 HCS
14-12-22

RELEASED
2011-11-23

C	RE-DESIGNED D3234-1 TO FIT D3025-1 REV. B. ZONE C3-2, 4.505 WAS 5.347, ZONE D8-2, 2.700 WAS 2.841. REASON: REF PAR 11-118.	JC	11.09.29
B	REDRAWN IN SOLIDWORKS TO CURRENT DESIGN STANDARDS. PARTS FULLY DIMENSIONED. NO PHYSICAL CHANGES MADE TO PARTS. REASON: REF PAR 08-029.	AJS	08.11.24
A	NEW ISSUE	CP	03.11.19
REV.	DESCRIPTION	BY	DATE
DESIGN		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN			
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D3234	SHEET 1 OF 2
APPROVED		TITLE	SCALE
DE APPR.		DOUBLER	NTS
DATE	11.09.29	COPYRIGHT © 2003 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR TRANSMITTED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

D3234-1 DOUBLER



D3234-5 SPACER

D3234-3 DOUBLER

DESIGN	JD	DART AEROSPACE LTD	
DRAWN	BC	HAWKESBURY, ONTARIO, CANADA	
CHECKED	BE	DRAWING NO.	REV. C
MFG. APPR.	EE	D3234	SHEET 2 OF 2
APPROVED	NA	TITLE	SCALE
DE APPR.	NA	DOUBLER	NTS
DATE	11.09.29	COPYRIGHT © 2003 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	

RELEASED
2011-11-23
NO